CONTENTS

OCTOBER VOLUME 96, NUMBER 1 1995

CONTENTS

III Announcement

V Electronic mail submission of L^AT_EX manuscripts

V. L. Solozhenko, G. Will and F. Elf — 1 Isothermal compression of hexagonal graphite-like boron nitride up to 12 GPa

D. De Sousa Meneses — 5 Phenomenological Landau theory of the $[NH_4]_2SO_4$ para-ferroelectric phase transition

J. R. Anderson, M. Gorska, Y. Oka, J. Y. Jen, I. Mogi and Z. Golacki — 11 High-field magnetization of $Sn_{1-x}Eu_xTe$:EuTe

F. Demichelis, F. Giorgis and C. F. Pirri — 17 Effects of hydrogen dilution of silane/methane gas mixtures on growth and structure of a-$Si_{1-x}C_x$:H alloys

Y. Kishimoto, T. Ohno, T. Kanashiro, Y. Michihiro, K. Mizuno, M. Miyamoto, T. Tanaka and K. Miyatani — 23 Changes in NMR spectra and Knight shifts due to the CDW transition in CuV_2S_4

Shu-Han Lin and B. Feldman — 29 Infrared and optical absorption of hydrogenated boron nitride thin films

K. Lal, S. Niranjana, N. Goswami and A. R. Verma — 33 Direct observation of forward diffracted beam from imperfect and thin natural diamond crystals

K. Fujiwara, T. Imanishi, K. Kawashima, M. Hosoda and K. Tominaga — 37 Spectral linewidth broadening of the zeroth order Stark ladder transition in GaAs/AlAs superlattices with ultrathin barriers

Wen-hui Ma, Yan-feng Chen, Qi li, Ming-sheng Zhang and Nai-ben Ming — 41 Ferroelectric $PbTiO_3/Au/PbTiO_3$ multilayers on $LaAlO_3$ substrate by metalorganic chemical vapor deposition

P. Gómez, J. Piqueras, M. J. Sayagués and J. M. González-Calbet — 45 Influence of oxygen content on the cathodoluminescence of $YBa_2Cu_3O_{7-x}$

OCTOBER VOLUME 96, NUMBER 2 1995

CONTENTS

III Announcement

V Electronic mail submission of L^AT_EX manuscripts

L. Colombo and P. Giannozzi — 49 A first-principles derived parametrization for the adiabatic bond charge model

D. Volm, T. Streibl, B. K. Meyer, T. Detchprohm, H. Amano and I. Akasaki — 53 Magneto-optical investigation of the neutral donor bound exciton in GaN

R. B. Dunford, R. Newbury, F. F. Fang, R. G. Clark, R. P. Starrett, J. O. Chu, K. E. Ismail and B. S. Meyerson — 57 FQHE states of high mobility n-Si/$Si_{1-x}Ge_x$ heterostructures in pulsed magnetic fields

S.-H. Song, D. C. Tsui and F. F. Fang — 61 Cyclotron mass of two-dimensional holes in strained Si/$Si_{0.88}Ge_{0.12}$/Si heterostructures

X. L. Hu, F. W. Van Keuls, Y. Carmi, H. W. Jiang and A. J. Dahm — 65 Screening of the Coulomb gap

Wang Bing, Wang Yan and Wu Ziqin — 69 Multifractal behavior of solid-on-solid growth

Tetsuji Tokihiro and Hiromi Ezaki — 73 The effects of quasiperiodic grating on surface–plasmon polariton

V. M. Fomin and J. T. Devreese — 79 Large bipolarons in high magnetic fields

R. Tyson, D. D. Arnone, J. Burroughes, M. Grimshaw, H. P. Hughes, M. Pepper, D. A. Ritchie and G. A. C. Jones — 85 Tuneable confinement energies in a quasi-one-dimensional electron gas regrown on a patterned GaAs backgate

Kazuhisa Kobashi and Masaharu Oguni — 89 Doping effect of bromocyclohexane on the IV-to-III-to-II phase transitions of crystalline chlorocyclohexane

T. W. Kim, D. U. Lee, Y. S. Yoon, C. H. Wang, S. S. Yom, S. J. Lee and C. O. Kim — 95 Structural and optical properties of $PbTiO_3$ films grown on indium tin oxide-coated glass by metalorganic chemical vapor deposition using the continuous cooling process

A. Gold and L. Calmels — 101 Correlation energy of the electron gas at high density: valley degeneracy and dimensionality

107 Erratum: Self-polarized quantum dots? Vol. 95, No. 1, pp. 7–10

OCTOBER VOLUME 96, NUMBER 3 1995

CONTENTS

109 Announcement

A. K. Ramdas — 111 Isotopic constitution of semiconductors: manifestations in their electronic and vibrational spectra

T. Takamasu, H. Dodo and N. Miura — 121 Current-driven breakdown of integer and fractional quantum Hall effects in GaAs/AlGaAs heterostructures in pulsed high magnetic fields

J. S. Ramachandran, S. M. Bhagat, J. L. Peng and M. Rubinstein — 127 FMR of powder $La_{0.7}Ca_{0.3}MnO_3$

F. Brosens and J. T. Devreese — 133 Stability of large bipolarons in the presence of a magnetic field

F. Brosens, J. T. Devreese and L. F. Lemmens — 137 Fermion diffusion and the Feynman–Kac functional for interacting fermions

J. Robert, P. Petit, J.-J. André and J. E. Fischer — 143 Evidence of a metal–insulator transition in orthorhombic RbC_{60}: a pulsed ESR study

A. Pénicaud, A. Peréz-Benítez, R. Escudero and C. Coulon — 147 Single crystal synthesis of $[(C_6H_5)_4P]_2[C_{70}][I]$ by electrocrystallization and experimental determination of the g-value anistropy of C_{70}^- and C_{60}^- at 4.2 K

M. Strømme, G. A. Niklasson and C. G. Granqvist — 151 Voltammetry on fractals

G. Barault and J. M. Greneche — 155 Reinvestigation of the hyperfine field distributions in Fe–B metallic amorphous alloys

F. Parmigiani, G. Samoggia and L. Sangaletti — 161 Multi-electron excitations in the optical and X-ray photoelectron spectra of NiO

C. Paar, J. Stampfl, S. Tasch, H. Kreimaier, G. Leising, H. Vestweber, J. Pommerehne, H. Bässler and U. Scherf — 167 Excitation energy transfer in segmented ladder-type poly (para-phenylene) blue light emitting diodes

H. C. Padhi and B. B. Dhal — 171 K_β/K_α X-ray intensity ratios of Fe, Co, Ni, Cu, Mo, Ru, Rh and Pd in equiatomic aluminides

175 Corrigendum

OCTOBER VOLUME 96, NUMBER 4 1995

CONTENTS

III Announcement

V Electronic mail submission of L^AT_EX manuscripts

S. Ouannasser, H. Dreyssé and L. T. Wille — 177 Segregation behavior at MoW(001) alloy surfaces

A. L. Efros and F. G. Pikus — 183 Non-Fermi-liquid behavior of two-dimensional electron gas with disorder

S. L. Bud'ko, A. E. Luppov, A. G. Gapotchenko and N. Motohira — 189 Effect of pressure on the "irreversibility line" in Bi-2212 single crystals

J. Przeslawski, T. Iglesias and J. A. Gonzalo — 195 Dielectric losses behaviour under frequency and a.c. field amplitude variation in TGSe crystals

Jian Chen, Qian-Fen Shao, Rui-Fang Cai and Zu-En Huang — 199 Redetermination of the ^{13}C Knight shift in K_3C_{60}

V. V. Tugushev and E. A. Zhukovsky — 203 Charge density wave in a layered semiconductor nanostructure

A. Zakharova and V. Gergel — 209 Resonant tunneling in type II heterostructures

R. J. Radtke and S. Das Sarma — 215 Mean-field theory for the spin-triplet exciton liquid in quantum wells

A. K. Asadov, A. N. Ulyanov, E. N. Malyshev and Yu. E. Kuzovlev — 221 Magnetic blocking of weak-linked oxygen of YBaCuO ceramics at high temperatures

S. W. Robey, V. E. Henrich, C. Eylem and B. W. Eichhorn — 225 Evolution of the one-electron spectral function with hole doping in $Nd_{1-x}Sr_xTiO_3$

Xiaodun Jing, N. Troullier, J. R. Chelikowsky, K. Wu and Y. Saad — 231 Vibrational modes of silicon nanostructures

Hang Nam Ok, Kyung Seon Baek, Byung Chul Cho and Chul Sung Kim — 237 Superexchange interactions in $Cu_{0.5}Fe_{0.5}Rh_{0.5}Cr_{1.5}S_4$

Y. T. Oh, T. W. Kang, C. Y. Hong, K. T. Kim and T. W. Kim — 241 The relation between Ga vacancy concentrations and diffusion lengths in intermixed $GaAs/Al_{0.35}Ga_{0.65}As$ multiple quantum wells

B. Bouhafs and H. Aourag — 245 Predicted modifications in the direct and indirect gaps of Si

251 Erratum

i Author Index Nos 1–4

NOVEMBER VOLUME 96, NUMBER 5 1995

CONTENTS

III Announcement

V Electronic mail submission of L^AT_EX manuscripts

A. Suzuki, T. Suzuki and Y. Maruyama — 253 Magnetic and electrical behaviors of C_{60} (TDAE) single crystal

K. Kaneto, T.Abe and W. Takashima — 259 Evolution of absorption spectra of C_{60} film in solid electrolyte cell during electrochemical reduction

A. Kurtenbach, W. W. Rühle and K. Eberl — 265 Intrinsic radiative lifetimes of $InP/In_{0.48}Ga_{0.52}P$ quantum dots

R. Meyer, M. Dahl, G. Schaack, A. Waag and R. Boehler — 271 Low-temperature magneto-optical studies of a $CdTe/Cd_{1-x}Mn_xTe$ quantum-well structure at high hydrostatic pressures

K. Reimann, St. Rübenacke and M. Steube — 279 Two-photon spectroscopy in the low- and high-pressure phases of $AgGaS_2$

M. Kafesaki, M. M. Sigalas and E. N. Economou — 285 Elastic wave band gaps in 3-D periodic polymer matrix composites

A. Fanelsa, R. Schellenberg, F. U. Hillebrecht and E. Kisker — 291 Emission direction dependence of the magnetic linear dichroism in valence band and core level photoemission from Co/Cu(001)

G. Mackh, W. Ossau, D. R. Yakovlev, G. Landwehr, R. Hellmann, E. O. Göbel, T. Wojtowicz, G. Karczewski and J. Kossut — 297 Exciton magnetic polarons in $CdTe/Cd_{1-x}Mn_xTe$ quantum wells with high manganese contents

S. Zollner, C. M. Herzinger, J. A. Woollam, S. S. Iyer, A. P. Powell and K. Eberl — 305 Piezo-optical response of $Si_{1-y}C_y$ alloys grown pseudomorphically on Si(001)

L. P. Rokhinson, B. Su and V. J. Goldman — 309 Peak values of conductivity in integer and fractional quantum Hall effect

H. A. Blackstead and J. D. Dow — 313 Pair-breaking by Ba-site magnetic dopants in superconducting $NdBa_2Cu_3O_x$

Li Yi, Zhou Yong-Dong, Li Ju-Sheng, Jiang Hong and Jin Yi-Xin — 317 Luminescence of Er-implanted porous silicon

T. Hughbanks and Yunchao Tian — 321 On the structure and composition of carbon nitride

NOVEMBER VOLUME 96, NUMBER 6 1995

CONTENTS

III Announcement

V Electronic submission of L^AT_EX manuscripts

J. E. F. Frost, C.-T. Liang, D. R. Mace, M. Y. Simmons, M. Pepper and D. A. Ritchie — 327 Reflection of edge states in the fractional quantum Hall regime

K. Mizoguchi, M. Honda, N. Kachi, F. Shimizu, H. Sakamoto, K. Kume, S. Masubuchi and S. Kazama — 333 ESR linewidth in conducting polymers with five-membered ring

T. J. Kreutz, P. Aebi and J. Osterwalder — 339 Photoemission with high angular and energy resolution: temperature dependent exchange splitting in nickel

S. Koleśnik, J. Igalson and T. Skośkiewicz — 345 Influence of annealing on anisotropy of flux trapping in polycrystalline Nb samples

V. A. Berezovets, A. O. Smirnov, I. I. Farbshtein and D. Schneider — 349 Identification of 2D hole subbands on the $(10\bar{1}0)$ Te surface

V. A. Khodel, J. W. Clark and V. R. Shaginyan — 353 Rearrangement of the electron Fermi surface in layered compounds

D. P. Halliday, J. M. Eggleston, K. Y. Lee, J. E. F. Frost and S. P. Beaumont — 359 Optical properties of ultrathin 50 nm GaAs membranes

T. Koyama and M. Tachiki — 367 Plasma excitation by vortex flow

Peiqin Zhou, Xiujun Fu, Zizheng Guo and Youyan Liu — 373 Structure of mobility edges in a one-dimensional incommensurate model

Yuan P. Li, D. C. Tsui, L. W. Engel, M. B. Santos, T. Sajoto and M. Shayegan — 379 RF resonance in two-dimensional electron transport in the Wigner solid regime

A. J. A. de Oliveira, O. F. de Lima, W. A. Ortiz and P. C. de Camargo — 383 Spin–flip transition and magnetic phase diagram of Cr–V alloys

K. Ishioka, K. G. Nakamura and M. Kitajima — 387 Reduction in Raman intensity of Si(111) due to defect formation during ion irradiation

S. Sanfilippo, J. Beille, F. Pourtier, J. C. Villegier, D. Chateigner, P. Germi, M. Pernet and H. Noël — 391 Characterization of epitaxial *a* axis and *c* axis oriented $YBa_2Cu_3O_{7-x}$ thin films. Effect of uniaxial stresses

A. Stesmans — 397 Oxidation temperature dependent restructuring of the P_b defect at the (111) Si/SiO_2 interface

Z. X. Zhao, G. C. Che, Y. C. Lan and A. M. Hu — 401 An empirical rule of critical temperature in cuprate superconductors

M. Qazzaz, G. Yang, S. H. Xin, L. Montes, H. Luo and J. K. Furdyna — 405 Electron paramagnetic resonance of Mn^{2+} in strained-layer semiconductor superlattices

A. S. Skal — 411 Conductivity in a magnetic field and elasticity of disordered systems

L. M. Thomas and J. Shanker — 417 Analysis of pressure–volume relations for NaCl crystal at high temperatures

Shu-han Lin, I. M. Brown and B. J. Feldman — 421 Electron spin resonance in microcrystalline cubic boron nitride/amorphous hydrogenated boron nitride mixed phase thin films

NOVEMBER VOLUME 96, NUMBER 7 1995

CONTENTS

	III	Announcement
	V	Electronic submission of LaTeX manuscripts
R. K. Kremer	427	Anisotropic decrease of the spin–Peierls transition temperature of $CuGeO_3$ with a magnetic field
W. Göb, W. Lang, W. Markowitsch, V. Schlosser, W. Kula and R. Sobolewski	431	Erasable photoinduced change of carrier density and coherence lengths in oxygen-deficient $YBa_2Cu_3O_x$
C. M. Townsley, B. Schlichtherle, D. Wolverson, J. J. Davies, Ken-ichi Ogata and Shigeo Fujita	437	Spin-flip Raman scattering of holes bound to acceptors in *p*-type nitrogen-doped zinc selenide
E. Issac Samuel, S. Ravi and V. Seshu Bai	441	Excess conductivity studies in the paracoherence region of Bi–Sr–Ca–Cu–O superconductors
Dong Hoon Lee, Hong Seok Kim, Jeong Yong Lee, Chul Hyun Yo and Keu Hong Kim	445	Characterization of the magnetic properties and transport mechanisms of $Co_xFe_{3-x}O_4$ spinel
J. L. Morán-Lopéz, J. M. Cabrera-Trujillo and J. Dorantes-Dávila	451	A possible route to macroscopic formation of endohedral fullerenes
T. Terashima, H. Takeya, S. Uji, K. Kadowaki and H. Aoki	459	De Haas–van Alphen oscillations in the normal and superconducting states of the boro-carbide superconductor YNi_2B_2C
T. Ishigaki, K. Mori, O N. Bakharev, A. V. Dooglav, E. V. Krjukov, O. V. Lavizina, O. B. Marvin, I. R. Mukhamedshin and M. A. Teplov	465	Crystal electric field at Tm^{3+} sites in $TmBa_2Cu_4O_8$
I. Solimany and B. Kramer	471	Electron in a magnetic quantum dot
Tao Yu, Yan-Feng Chen, Li Shun, Jian-Xie Chen and Nai-Ben Ming	477	Phase transition of $PbTiO_3$ polycrystalline thin film prepared by metalorganic chemical vapor deposition on yttrium stabilized zirconium
K. Z. Wang, Z. Q. Xue, M. Ouyang, H. X. Zhang and C. H. Huang	481	Electronic memory switching in a new charge transfer-complex thin film
G. F. Goya, S. J. Stewart and R. C. Mercader	485	Mössbauer study of Fe–Zn–O phases
S. V. Nistor, E. Goovaerts and D. Schoemaker	491	EPR detection of the presence and movement of anion vacancies in X-ray irradiated $PbCl_2:Tl^+$ crystals
U. Schärer and P. Wachter	497	Negative elastic constants in intermediate valent $Sm_xLa_{1-x}S$
J. Zeman, M. Zigone, G. L. J. A. Rikken and G. Martinez	503	Raman scattering from free standing porous silicon under hydrostatic pressure
S. Hazra, A. Ghosh and D. Chakravorty	507	Electrical properties of sol-gel derived semiconducting cobalt silicate gel-glass
B. Gicala, J. Pszczoła, Z. Kucharski and J. Suwalski	511	Magnetic hyperfine fields of $Dy_x(Fe–Co)_y$ compounds
S. Savasta and R. Girlanda	517	The particle–photon interaction in systems described by model Hamiltonians in second quantization
L. S. Grigoryan and M. Tokumoto	523	New iodine containing polymers of C_{60}: Synthesis, characterization and magnetic properties
M. D. Glinchuk and I. V. Kondakova	529	Influence of the random elastic fields on the phase transitions in disordered ferroelectrics

NOVEMBER VOLUME 96, NUMBER 8 1995

CONTENTS

	III	Announcement
	V	Electronic submission of L^AT_EX manuscripts
A. K. Asadov, A. N. Ulyanov, E. N. Malyshev and Yu. E. Kuzovlev	535	Magnetic blocking of weak-linked oxygen of YBaCuO ceramics at high temperatures
M. Baenitz, M. Heinze, K. Lüders, H. Werner, R. Schlögl, M. Weiden, G. Sparn and F. Steglich	539	Superconductivity of Ba doped C_{60}—susceptibility results and upper critical field
N. M. Sammes, G. Tompsett and A. M. Cartner	545	High temperature Raman spectra of $Bi_8Pb_5O_{17}$
A. Dinia, J. Bailly, K. Ounadjela and D. Stoeffler	549	Magnetization curves simulation in Co/Ru superlattices
Y. G. Shen, D. J. O'Connor, R. J. MacDonald and K. Wandelt	557	Surface composition and ordering of $Cu_3Pt(111)$
Ch. Bellin, G. Loupias, A. A. Manuel, T. Jarlborg, Y. Sakurai, Y. Tanaka and N. Shiotani	563	Anisotropy of electronic distribution in a cobalt disilicide single crystal
M. Coutanceau, P. Dordor, J.-P. Doumerc, J.-C. Grenier, P. Maestro, M. Pouchard, D. Sedmidubsky and T. Seguelong	569	Metal–insulator transition in the thallium strontium cobaltite $TlSr_2CoO_5$
M. S. Rogalski, M. Morariu, M. Valeanu and N. Plugaru	573	Mössbauer study of the interstitial solid solutions $Y_2Fe_{17-x}M_xN_y$ with M = Al, Si
G. Di Francia, P. Maddalena and D. Ninno	579	Formation of luminescent chemically etched porous silicon
M. Apostol, C. Goze, F. Rachdi and M. Mehring	583	Off-centre sites in alkali fullerides
R. Islam and D. R. Rao	589	Derivative spectra of polycrystalline $Zn_{1-x}Cd_xSe$ thin films
Yu-Xiang Zheng, You-Hua Qian, Liang-Yao Chen, Shi-Ming Zhou, Ya-Dong Wang, Cheng-Lu Lin, Zhi-Ping He and An-Sheng Zheng	593	Characteristics of high energy N^+-implanted damage in GaSb
A. K. Gangopadhyay, J. S. Schilling, M. De Leo, W. E. Buhro, K. Robinson and T. Kowalewski	597	Synthesis and characterization of $C_{60}\{CCl_4\}_{10}$
J. A. Kalomiros, N. Kalkan, M. Hanias, A. N. Anagnostopoulos and K. Kambas	601	Optical and photoelectric properties of $TlGaSe_2$ layered crystals
Yu. A. Bogod and A. Libinson	609	"High temperature oscillations": measurement of energy parameters of bismuth band spectrum
	i	Author Index Nos 5–8

DECEMBER VOLUME 96, NUMBER 9 1995

CONTENTS

	III	Announcement
	V	Electronic submission of L^AT_EX manuscripts
J. T. Devreese, V. M. Fomin and F. Brosens	613	Magnetoabsorption of large bipolarons
F. Brosens and J. T. Devreese	619	Stability of large bipolarons in the presence of a magnetic field: analytical asymptotic limits
A. Maignan, Ch. Simon, V. Caignaert and B. Raveau	623	Giant magnetoresistance ratios superior to 10^{11} in manganese perovskites

J. M. De Teresa, J. Blasco, M. R. Ibarra, J. García, C. Marquina, P. Algarabel and A. del Moral — 627 Giant magnetoresistance in bulk $(La_{3/4}Tb_{1/4})_{2/3}Ca_{1/3}MnO_3$

D. D. Choughule, S. B. Ogale and P. Guptasarma — 631 Implications of simultaneous doping at plane and chain copper sites in $Y_1Ba_2Cu_3O_{7-\delta}$ system for its superconducting properties

D. Guennani, J. Valenta, A. Manar, J. B. Grun, T. Cloitre, O. Briot and R. L. Aulombard — 637 Excitons and biexcitons in MOVPE-grown ZnS epitaxial layers

G. K. Wertheim and D. M. Riffe — 645 Origin of anomalies in photoemission from the conduction band of potassium

J. Łusakowski, S. Huant and M. Grynberg — 649 Optical phonon assisted increase of impact ionization efficiency near the ultra quantum limit regime

G. Ruani, P. Guptasarma and C. Taliani — 653 New apex-oxygen related mode in Pr–Ba–Cu–O from IR-excited Raman scattering

V. N. Strocov, H. I. Starnberg and A. R. H. F. Ettema — 659 Observation of surface resonances on layered TiS_2

H. Pioch, J.-U. von Schütz and H. C. Wolf — 665 Zero field-ODMR and emission/microwave double resonance on optically excited siloxene

K. Shimizu, K. Ichinose, Y. Fukuda and M. Shimotomai — 671 ^{143}Nd NMR study of 3d and 4f magnetism in $Nd_2(Fe_{1-x}Co_x)_{14}B$ and $Nd_2(Fe_{1-y}Ni_y)_{14}B$

Wei-xi Chen, Yu-guang Hong, Xiao-zhong Dang, Peng-fei Jiao, Shu-min Wang, Zong-ju Xia, Guo-yi Zhang, Yu-zhen Tong and Ying-hua Zou — 675 Subpicosecond dynamics spectra in InGaAs/GaAs strained-layer and strained quantum well

Jian-Xin Zhu, Z. D. Wang and L. Sheng — 679 Supercurrent of a quasi-one-dimensional anisotropic superconductor

R. E. Hummel, M. H. Ludwig, J. Hack and S.-S. Chang — 683 Does the blue/violet photoluminescence of spark-processed silicon originate from hydroxyl groups?

N. Bouarissa, T. Kobayasi, H. Nara and H. Aourag — 689 Pressure dependence of positron annihilation in germanium

H. Naito, T. Iwai, H. Amii, M. Okuda and T. Matsushita — 697 A simple interpretation of enhancement of hole drift mobility in amorphous arsenic triselenide induced by iodine doping

A. Srinivasa Rao, R. Ramakrishna Reddy, T. V. Ramakrishna Rao and J. Lakshmana Rao — 701 Electron paramagnetic resonance and optical absorption spectra of Fe^{3+} ions in alkali cadmium borosulphate glasses

S. K. Nikogosian, A. A. Sahakian, G. N. Yeritsian, A. G. Sarkisian and K. G. Begoian — 707 The role of impurity in effect of aging on T_c of $YBa_2Cu_{3-x}M_xO_y$ (M = Fe; Ni; Co; $x = 0$; 0.01) irradiated by fast electrons

B. E. Vugmeister, D. Nowakowski and D. L. Huber — 711 Freezing of the extended states in mean field theory of dilute Ising spin glasses with long range interactions

DECEMBER VOLUME 96, NUMBER 10 1995

CONTENTS

III Announcement

V Electronic submission of L^AT_EX manuscripts

Yun-bo Wang, Guo-hui Cao, Yang Li, Qing-zhu Ma, Yinghuan Guo and Ru-zhang Ma — 717 Positron-annihilation study on the Tl-1223 superconductor

N. Pellerin, F. J. Gotor, P. Simon, L. Durand and P. Odier — 721 Orientation ability of Y_2BaCuO_5 phase in a magnetic field: consequences for texturing $YBa_2Cu_3O_{7-\delta}$

Xiliang Nie, Renhui Wang, Yiying Ye, Yumei Zhou and Dingsheng Wang — 729 Calculations of stacking fault energy for fcc metals and their alloys based on an improved embedded-atom method

J. A. Kalomiros, E. C. Paloura, A. Ginoudi, S. Kennou, S. Ladas, Ch. Lioutas, N. Vouroutzis, G. Voutsas, D. Girginoudi, N. Georgoulas and A. Thanailakis — 735 Surface modification of a-SiC thin films with *ex-situ* hydrogenation

K. Kniaź, J. E. Fischer, L. A. Girifalco, A. R. McGhie, R. M. Strongin and A. B. Smith III — 739 Fullerene alloys

L. G. Ferreira and M. A. Boselli — 745 Lattice vibrations and alloying: a model inspired in the density functional

V. Bellani, G. Guizzetti, F. Marabelli, M. Patrini, S. Lagomarsino and H. von Känel — 751 Optical functions of epitaxial β-$FeSi_2$ on Si(001) and Si(111)

S. Özdemir, R. A. Süleymanov and E. Civan — 757 Electrical conductivity in layered semiconductor $TlInS_2$ with incommensurate phase

A. M. Alcalde and G. Weber — 763 Nonparabolicity effects on transition rates due to confined phonons in GaAs–AlGaAs quantum wells

A. Parretta and A. Rubino — 767 Kinetics of intermetallics transformation in sputtered Cu–In alloys studied by electrical resistance measurements

C. Rocchi and F. Sacchetti — 771 On the symmetry of electron density in nickel

D. S. Misra, S. K. Singh and S. B. Palmer — 775 Densification of $YBa_2Cu_3O_{7-\delta}$ pellets annealed on platinum foil

I. G. Medvedev — 779 The exact solution for the one-level impurity Green's function in the case of the filled (or empty) substrate energy band

M. Drozdowski, J. Domagała, M. Kozielski, M. Szybowicz and A. Pajączkowska — 785 Temperature study of lattice constants and Raman scattering of $SrLaGaO_4$ single crystal

I. M. Tiginyanu, A. I. Terletsky and V. V. Ursaki — 789 Improvement of InP crystalline perfection by He^+-implantation and subsequent annealing

V. V. Tishchenko, Y. S. Raptis, E. Anastassakis and N. V. Bondar — 793 Optical studies of ZnSe–ZnS/GaAs(100) single quantum wells grown by photo-assisted vapor phase epitaxy

R. Matzdorf, R. Paniago, G. Meister and A. Goldmann — 799 Temperature-dependent surface Fermi contours: origin of unusual surface geometries on Ag(111)?

S. Iwai, A. Nakamura, K. Tanimura and N. Itoh — 803 A study of ultrafast self-trapping processes of electron–hole pairs in RbI by femtosecond pump and probe spectroscopy

DECEMBER VOLUME 96, NUMBER 11 1995

CONTENTS

III Announcement

V Electronic submission of L^AT_EX manuscripts

L. Wendler, V. M. Fomin and A.V. Chaplik — 809 Persistent currents of few interacting electrons in mesoscopic rings

H. Takayanagi and T. Akazaki — 815 Temperature dependence of the critical current in a clean-limit superconductor–2deg–superconductor junction

S. Özdemir, R. A. Süleymanov, K. R. Allakhverdiev, F. A. Mikailov and E. Civan — 821 Memory effect in layered semiconductor $TlInS_2$ with incommensurate phase

K. R. Allakhverdiev, N. Türetken, F. M. Salaev and F. A. Mikailov — 827 Succession of the low temperature phase transitions in $TlInS_2$ crystals

D. A. Drabold, P. Ordejón, Jian Jan Dong and R. M. Martin — 833 Spectral properties of large fullerenes from cluster to crystal

V. M. Konnov, T. V. Larikova, N. N. Loyko, V. A. Dravin, V. V. Ushakov and A. A. Gippius — 839 Yb luminescence in ion-implanted GaAs

Y. G. Zhao, X.-L. Huang, W.-X. Chen, S.-M. Wang, R. A. Masut and J. L. Brebner — 843 Effect of persistent photoconductivity on photoconductivity spectra in $Ga_xIn_{1-x}P$/InP:Fe ($x < 0.18$)

Zhao-hua Cheng, Bao-gen Shen, Ming-xi Mao, Ji-jun Sun, Jun-xian Zhang, Yi-de Zhang and Fa-shen Li — 847 Nuclear magnetic resonance and Mössbauer effect studies of melt-spun $Pr_xNd_{4-x}Fe_{77.5}B_{18.5}$ alloys

E. Belorizky — 853 Exact ground state spin configurations for 2D and 3D lattices with nearest neighbor bilinear exchange

Bao-gen Shen, Zhao-hua Cheng, Bing Liang, Hua-yang Gong, Jun-xian Zhang, Qi-wei Yan and Wen-shan Zhan — 859 Magnetocrystalline anisotropy of $R_2Fe_{10}Ga_7$ compounds with R=Y,Sm,Gd,Tb,Dy,Ho,Er and Tm

Y. F. Chen, W. C. Chou and A. Twardowski — 865 Spin-glass-like behaviour of Fe-based diluted magnetic semiconductors

K. Sekar, G. Kuri, P. V. Satyam, B. Sundaravel, D. P. Mahapatra and B. N. Dev — 871 Epitaxy driven fractal growth

T. Deruelle, Y. Gulder and B. Meurer — 877 Collective excitations in tunable antidot arrays

F. M. F. de Groot — 881 Resonant 3*s* photoemission and resonant 2*p*3*p*3*p* auger of CaF_2

G. Wellenhofer and U. Rössler — 887 *Ab initio* calculations of structural and electronic properties of 15R SiC

V. P. Martovitsky, J. I. Gorin and G. A. Kaljushnaia — 893 Improved Bi-(2201) single crystals grown in cavities formed in KCl solution-melt

V. F. Elesin and Yu. V. Kopaev — 897 On the kinetic theory of the quantum cascade laser

P. Vincente, A. Raymond, M. Kamal Saadi, B. Couzinet, M. Kubisa, W. Zawadzki and B. Etienne — 901 Bound magneto-acceptor and magneto-donor states in the conduction band of GaAs–GaAlAs heterostructures

Hang Nam Ok, Kyung Seon Baek, Jeong Su Yang and Soo Haeng Cho — 907 Mössbauer study of $Ni_x(Cu_{0.5}Fe_{0.5})_{1-x}Cr_2S_4$

R. Guzmán, J. Morales, J. L. Tirado, M. L. Elidrissi Moubtassim, J. C. Jumas and G. Langouche — 911 ^{125}Te Mössbauer spectroscopic study of layered transition metal ditellurides with interlayer communication

A. S. T. Pires — 915 Perturbative analysis of the classical two-dimensional XY model

G. Petö and J. Kanski — 919 Photoemission studies of amorphous silicon induced by P^+ ion implantation

DECEMBER VOLUME 96, NUMBER 12 1995

CONTENTS

III Announcement

V Electronic submission of LaTeX manuscripts

H. Mizobuchi, T. Kawai and K. Yoshino — 925 Ferromagnetic behavior of self-doping type polyaniline derivatives depending on oxidation state

Fa-jian Shi, Meng Ding and Tsung-han Lin — 931 Extraordinary large magnetoresistance in doped $LaMnO_3$ oxide thin films

V. P. Kochereshko, I. A. Merkulov, G. R. Pozina, I. N. Uraltsev, D. R. Yakovlev, W. Ossau, A. Waag and G. Landwehr — 935 Photoinduced inversion of magnetic hysteresis in semimagnetic superlattices

H. Siegle, L. Eckey, A. Hoffmann, C. Thomsen, B. K. Meyer, D. Schikora, M. Hankeln and K. Lischka — 943 Quantitative determination of hexagonal minority phase in cubic GaN using Raman spectroscopy

U. D. Venkateswaran, M. G. Schall, Y. Wang, P. Zhou and P. C. Eklund — 951 Photo-produced defect luminescence in solid C_{60}

X. Chen, R. Z. Ma, G. H. Cao and Y. Li — 957 Temperature dependent X-ray diffraction study of lattice vibrational behavior in Bi-system superconductor

T. Ludwig, D. Schweitzer and H. J. Keller — 961 Electron phonon interaction in the organic superconductors α_t-(BEDT-TTF)$_2$I$_3$ and β-(BEDT-TTF)$_2$IAuI

E. Z. Kurmaev, V. V. Fedorenko, L. V. Elokhina, A. S. Vinogradova and Xiao-hui Gao — 967 X-Ray emission spectra of fluorinated Bi2223 compound

Tadashi Kai, Kazuo Shiiki, Mitsuru Fukuchi and Noriyuki Takano — 971 Effect of charge neutrality condition in KKR–CPA method

Y. D. Woo, H. I. Lee, T. W. Kang, T. W. Kim and K. L. Wang — 975 Optical properties of strained Si_mGe_n monolayer superlattices grown on Si(100) substrates by molecular beam epitaxy

Xin-yu Liu and Zhen-ya Li — 981 High order nonlinear susceptibilities of composite medium

B. Soudini, N. Amrane, N. Badi, B. Khelifa and H. Aourag — 987 Positron annihilation studies in $Ga_xIn_{1-x}As$

I. C. da Cunha Lima, P. D. Emmel and A. Ferreira da Silva — 993 A simple model to study the effect of Γ–X hybridization on the binding energy of shallow donors in quantum wells of GaAs/AlAs

G. Balestrino, S. Martellucci, A. Paoletti, P. Paroli, G. Petrocelli, A. Tebano, S. A. Oliver and C. Vittoria — 997 Lithium ferrite epitaxial films grown by pulsed laser deposition: structural and electrical transport properties

S. M. Dubiel and J. Cieślak — 1003 Evidence of the fifth- and the seventh-order harmonics of spin-density waves in chromium?

1007 Author Index Nos 1–12